

## NOTES ON THE WRENS OF THE GENUS *NANNUS* BILLBERG.

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The wrens of the genus *Nannus*, from the standpoint of geographic distribution, form one of the most interesting groups of passerine birds. The present contribution to their elucidation is the result of an attempt to identify the specimens of this genus from Alaska contained in the collection of the Biological Survey in the United States National Museum. It finally became necessary to extend the investigation to most of the Old World forms as well as to all those from North America. For this purpose there have been available the specimens in the United States National Museum, including the collection of the Biological Survey, and a number of others kindly loaned by Mr. John E. Thayer, Mr. Outram Bangs, and Mr. A. C. Bent, to whom for this courtesy the writer wishes to extend his thanks. This material comprises 364 birds, including representatives of all the North American forms and most of those inhabiting the Old World, as well as the types of all the North American races excepting *Nannus hiemalis* (Vieillot).

The most important previous publications on this group are as follows:

SHARPE, R. BOWDLER.—[Genus] *Anorthura*. Catalogue of the Birds in the British Museum, vol. 6, 1881, pp. 268-280, pl. 16.

OBERHOLSER, HARRY C.—Synopsis of the Genus commonly called *Anorthura*. Auk, vol. 19, No. 2, April, 1902, pp. 175-181.

RIDGWAY, ROBERT.—Genus *Olbiorchilus* Oberholser. Bulletin of the United States National Museum, No. 50, pt. 3, 1904, pp. 595-605.

HARTERT, ERNST.—Gattung *Troglodytes* Vieill. Vögel der paläarktischen Fauna, vol. 1, Heft VI, June, 1910, pp. 776-784.

All measurements in the following pages are given in millimeters, and have been taken as explained in the writer's paper on *Butorides virescens*.<sup>1</sup> In this connection it might be well to mention that, by an unfortunate mistake, the measurements of the culmen given by

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<sup>1</sup> Proc. U. S. Nat. Mus., vol. 42, August 29, 1912, p. 533.

Mr. Ridgway in volume 3 and other early volumes of his *Birds of North and Middle America*,<sup>1</sup> are partly wrong, since some of the specimens were measured for total culmen and others for exposed culmen, but all averaged together. In other cases the measurement furnished is called exposed culmen, when it should be total culmen, or the reverse. The measurements hereinafter given for *Nannus troglodytes hiemalis* and *Nannus troglodytes pacificus* are taken from Ridgway's work, except for the culmen, which has been remeasured. The names of colors are based on Mr. Ridgway's recently published *Color Standards and Color Nomenclature*.

The genus *Nannus* Billberg<sup>2</sup> is by some authors merged with *Troglodytes* Vieillot, but it is undoubtedly sufficiently well marked to be treated as a separate group. It differs from *Troglodytes* in its short tail, which is less than three-fourths of the length of the wing; its slender and depressed bill, the culmen being almost straight; and in its narrow and silt-like nares, almost covered by overhanging membranes which are very slightly or not at all thickened.

The forms of this well circumscribed genus show a remarkable tendency to vary geographically, particularly on islands, and this has given rise to a large number of local races. There is, furthermore, a considerable amount of individual variation, although this is much more evident in some than in others. The seasonal difference is also in many cases great, as birds in the summer become much paler and less rufescent.

Until recently a number of the forms of *Nannus* were considered distinct species. The writer in 1902 reduced some of these to subspecies,<sup>3</sup> but still retained several specific groups. Several years later Doctor Hartert<sup>4</sup> treated all as races of a single species. This action the present writer, after a careful study of nearly all the forms of the genus, is now prepared to indorse. The North American birds alone have hitherto been referred to three distinct species, but it is evident from the following comparisons that they must all be considered subspecies of the Old World *Nannus troglodytes* (Linnaeus). Wide individual variation overlaps the difference between *Nannus hiemalis* of eastern North America and *Nannus troglodytes* of Europe. Intergradation of *Nannus hiemalis* with *Nannus hiemalis pacificus* is already understood; the latter intergrades individually with *Nannus fumigatus* of Japan, and this in the same manner with *Nannus nipalensis* of northern India. Baird's *Nannus alascensis*

<sup>1</sup> Bull. U. S. Nat. Mus., No. 50.

<sup>2</sup> Synopsis Faunae Scand., vol. 1, pt. 2, 1828, Table A, and p. 57 (type, by monotypy, *Motacilla troglodytes* Linnaeus).

<sup>3</sup> Auk, vol. 19, 1902, pp. 177-180.

<sup>4</sup> Vögel paläarkt. Fauna, vol. 1, Heft VI, June, 1910, pp. 776-784.

from the Pribilof Islands, Alaska, inosculates individually with *Nannus hiemalis helleri* of Kodiak Island, Alaska, which, in turn, clearly connects with *Nannus hiemalis* through *Nannus hiemalis pacificus*. Furthermore, *Nannus meligerus*, which the writer described as a distinct species, is now, by the acquisition of further material, found to be linked with *Nannus alascanensis* and *Nannus hiemalis pacificus* through forms on the middle and eastern islands of the Aleutian Chain. There is thus no logical alternative but to consider all the known forms of the genus *Nannus* as subspecies of a single type, which will therefore be *Nannus troglodytes* (Linnaeus) as the earliest described form. Dr. E. Hartert has recently published an excellent revision of the Palaearctic forms of this genus,<sup>1</sup> and our present interest is therefore especially in the American birds. Notes on a few of the Old World species, however, may be pertinent in this connection.

Birds from Norway, with which I assume Swedish birds to be identical, and which therefore represent typical *Nannus troglodytes* (Linnaeus),<sup>2</sup> differ from those of middle Europe by reason of their somewhat darker, duller, less rufescent upper parts; darker, more ochraceous lower surface; and usually more distinct dark barring on the lower back and rump. The earliest name for the bird from central and southern Europe is *Troglodytes domesticus* Brehm,<sup>3</sup> but this is preoccupied by *Sylvia domestica* Wilson,<sup>4</sup> a synonym of *Troglodytes aedon* Vieillot. The next and proper name for this subspecies is *Troglodytes sylvestris* Brehm,<sup>5</sup> described from Germany, which therefore now should stand as *Nannus troglodytes sylvestris* (Brehm).

The bird heretofore known as *Troglodytes pallidus* Hume requires another name, since this *Troglodytes pallidus*<sup>6</sup> is preoccupied by *Troglodytes pallida* d'Orbigny,<sup>7</sup> which is a synonym of *Troglodytes musculus hornensis* Lesson. The earliest tenable name for *Troglodytes pallidus* Hume is therefore *Nannus tianschanicus* (Sharpe).<sup>8</sup>

The race described as *Olbiorchilus fumigatus amurensis* Clark,<sup>9</sup>

<sup>1</sup> Vögel paläarkt. Fauna, vol. 1, Heft VI, June, 1910, pp. 776-784.

<sup>2</sup> See Hartert, Vögel paläarkt. Fauna, vol. 1, Heft VI, June, 1910, p. 778.

<sup>3</sup> Handb. Naturg. Vögel Deutschlands, 1831, p. 454 (Germany).

<sup>4</sup> Amer. Ornith., vol. 1, 1808, p. 129, pl. 7, fig. 3.

<sup>5</sup> Handb. Naturg. Vögel Deutschlands, 1831, p. 455.

<sup>6</sup> *Troglodytes pallidus* Hume, Stray Feathers, vol. 3, Nos. 1-3, January, 1875, p. 219 (Kashgar).

<sup>7</sup> *Troglodytes pallida* d'Orbigny, Mag. de Zool., vol. 7, 1837, Cl. II, pls. 77-79, p. 25 (Rio Negro, Patagonia).

<sup>8</sup> *Troglodytes tianschanica* Sharpe, Cat. Birds Brit. Mus., vol. 6, 1891, p. 273, footnote (Severtzoff MSS.) (new name for *Troglodytes pallidus* Hume).

<sup>9</sup> Proc. U. S. Nat. Mus., vol. 32, June 15, 1907, p. 474 (Fusan, Korea).

from the Amur region, has been synonymized by Hartert<sup>1</sup> with *Olbiorchilus fumigatus peninsulae* Clark, but it is undoubtedly a good form, though, of course, but a subspecies. The bird named by Buturlin *Anorthura fumigata ussuriensis*,<sup>2</sup> from the Usuri region of eastern Siberia, is apparently the same.

A complete list of the 36 forms of this genus now recognizable, in what seems to be most nearly their natural order, is here added:

- Nannus troglodytes troglodytes* (Linnaeus).
- Nannus troglodytes sylvestris* (Brehm).
- Nannus troglodytes hirtensis* (Seeböhm).
- Nannus troglodytes borealis* (Fischer).
- Nannus troglodytes zetlandicus* (Hartert).
- Nannus troglodytes islandicus* (Hartert).
- Nannus troglodytes kabylosum* (Hartert).
- Nannus troglodytes cypriotes* (Bate).
- Nannus troglodytes zagrossiensis* (Sarudny and Loudon).
- Nannus troglodytes hyrcanus* (Sarudny and Loudon).
- Nannus troglodytes tianschanicus* (Sharpe) (= *pallidus* Hume).
- Nannus troglodytes magrathi* (Whitehead).
- Nannus troglodytes neglectus* (Brooks).
- Nannus troglodytes tibetanus* (Walton).
- Nannus troglodytes nipalensis* (Blyth).
- Nannus troglodytes talifuensis* (Sharpe).
- Nannus troglodytes taiwanus* (Hartert).
- Nannus troglodytes szetschuanus* (Hartert).
- Nannus troglodytes dauricus* (Dybowski and Taczanowski).
- Nannus troglodytes tarbagataica* (Suschkin).
- Nannus troglodytes idius* (Richmond).
- Nannus troglodytes amurensis* (Clark).
- Nannus troglodytes peninsulae* (Clark).
- Nannus troglodytes fumigatus* (Temminck).
- Nannus troglodytes ogawae* (Hartert).
- Nannus troglodytes kurilensis* (Stejneger).
- Nannus troglodytes pallescens* (Ridgway).
- Nannus troglodytes meligerus* (Oberholser).
- Nannus troglodytes kiskensis* Oberholser.<sup>3</sup>
- Nannus troglodytes alascensis* (Baird).
- Nannus troglodytes tanagensis* Oberholser.<sup>3</sup>
- Nannus troglodytes petrophilus* Oberholser.<sup>3</sup>
- Nannus troglodytes semidiensis* Brooks.

<sup>1</sup> Vögel paläarkt. Fauna, vol. 1, Heft VI, June, 1910, p. 783.

<sup>2</sup> Messenger Ornith., vol. 1, Heft II, 1910, p. 118.

<sup>3</sup> New subspecies; see the following pages.

*Nannus troglodytes helleri* (Osgood).

*Nannus troglodytes pacificus* (Baird).

*Nannus troglodytes hiemalis* (Vieillot).

Following is a detailed treatment of all the American subspecies:

**NANNUS TROGLODYTES MELIGERUS (Oberholser).**

*Anorthura meligera* OBERHOLSER, Auk, vol. 17, No. 1, January, 1900, p. 25  
(Attu Island, Alaska).

*Subspecific characters*.—Similar to *Nannus troglodytes pallescens* (Ridgway), from the Commander Islands, but upper parts darker; lower parts more deeply ochraceous, posteriorly less heavily barred with blackish.

*Measurements*.—Male:<sup>1</sup> wing, 53–55.5 (average, 53.9) mm.; tail, 33–37 (35.3); exposed culmen, 14–15.5 (14.6); tarsus, 19–20 (19.6); middle toe without claw, 13.5–15 (14.2).

Female:<sup>2</sup> wing, 50.5; tail, 33.5; exposed culmen, 14.5; tarsus, 19; middle toe without claw, 13.5.

*Type-locality*.—Attu Island, Aleutian Islands, Alaska.

*Geographic distribution*.—Attu Island, Aleutian Islands, Alaska.

*Remarks*.—This wren when first described was supposed to occupy all the Aleutian Islands west of Unalaska Island, but by additional material recently collected from the intervening islands it is now shown to be confined, so far as known, to Attu Island, although it probably will be found also on the near-by Agattu Island. Furthermore, as already indicated, it must be considered only a subspecies, since it is now known to intergrade with the forms occurring on Unalaska Island and the Pribilof Islands through the birds of the intervening Aleutian Chain. This is one of the most deeply colored of the North American forms and is apparently a well-differentiated race.

By some curious mistake the subspecific name of this bird was printed *meliger* in the last edition of the American Ornithologists' Union Check-List.<sup>3</sup> The term is taken from the Greek word *μελινγρως*, meaning musical, and was Latinized in feminine as *meligera*, or masculine *meligerus*.

<sup>1</sup> Five specimens, from Attu Island, Alaska.

<sup>2</sup> One specimen, from Attu Island, Alaska.

<sup>3</sup> Committee American Ornith. Union, Check-List North Amer. Brds, ed. 3, 1910, p. 341.



Detailed measurements of specimens of this subspecies are as follows:

*Measurements of specimens of Nannus troglodytes meligerus.*

U.S.N.M. number.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe without claw.
201528 <sup>a</sup>	Male....	Attu I., Aleutian Is.....	June 9, 1906	A. H. Clark...	mm.	mm.	mm.	mm.	mm.
201526 <sup>a</sup>	do.....	do.....	June 11, 1906	do.....	53.0	33.0	14.0	19.0	14.0
201527 <sup>a</sup>	do.....	do.....	do.....	do.....	53.5	35.5	15.0	20.0	14.0
65479 <sup>a</sup>	do.....	do.....	June 20, 1873	W. H. Dall...	54.5	37.0	15.0	19.5	13.5
135646 <sup>a</sup>	do.....	do.....	June 4, 1894	C. H. Townsend.	53.0	34.0	15.5	20.0	15.0
135647 <sup>a</sup>	Female	do. b.....	do.....	do.....	55.5	37.0	14.0	19.5	14.5
					50.5	33.5	14.5	19.0	13.5

<sup>a</sup> Used in measurement averages on p. 227.

<sup>b</sup> Type.

**NANNUS TROGLODYTES KISKENSIS, new subspecies.**

*Subspecific characters.*—Similar to *Nannus troglodytes meligerus*, but wing, tail, and tarsus shorter; upper parts lighter, less rufescent (more grayish) brown, and posteriorly more uniform (less distinctly barred); lower parts more deeply ochraceous, and posteriorly somewhat less heavily barred with blackish.

*Description.*—Type, adult male, No. 230239, U.S.N.M., Biological Survey collection; Kiska Harbor, Kiska Island, Aleutian Islands, Alaska, June 19, 1911; A. Wetmore; original number, 559. Pileum olive brown, somewhat lighter on the forehead, where the worn feathers of the summer plumage have not yet been fully molted out; back between olive brown and buffy brown, posteriorly somewhat rufescent and with faint, darker bars; upper tail-coverts and tail Prout's brown, numerously barred with blackish brown, passing on the distal portion of the feathers into cinnamon buffy or sayal brown; wings fuscous, barred on the exterior portion of the outer webs of the feathers and on also the inner webs of the tertials with sayal brown and buffy; superciliary stripe pale buff; sides of head like the crown; sides of neck like the back, but with flecks of pale buff like the sides of the head; lower parts between cinnamon buff and avellaneous, the jugulum rather darker, more brownish, but flanks, sides, and crissum, between sayal brown and Saccardo's umber; sides, flanks, abdomen, and crissum spotted and irregularly barred with brownish black or blackish brown; lining of wing mixed buffy whitish and pale drab.

*Measurements.*—Male:<sup>1</sup> wing, 51–52 (average, 51.8) mm.; tail, 32–33.5 (32.9); exposed culmen, 14.5–16 (15.1); tarsus, 19; middle toe without claw, 14–14.5 (14.4).

<sup>1</sup> Four specimens, from Kiska Island, Alaska.

Female:<sup>1</sup> wing, 48–49 (average, 48.4) mm.; tail, 27–32 (29.3); exposed culmen, 14–15 (14.3); tarsus, 18; middle toe without claw, 13.5–14.5 (13.9).

*Type-locality*.—Kiska Harbor, Kiska Island, Aleutian Islands, Alaska.

*Geographic distribution*.—Kiska Island and Little Kiska Island, Aleutian Islands, Alaska.

*Remarks*.—This race shows its subspecific relationship with *Nannus troglodytes meligerus* by its individual variation, which, in occasional specimens, practically bridges over the difference between it and the latter, though normal specimens are decidedly different. One example from Kiska Island (No. 65480, U.S.N.M.) is much more rufescent than the rest and shows a tendency toward intergradation with the bird from Unalaska Island.

Detailed measurements of examples of this race are given below:

*Measurements of specimens of Nannus troglodytes kiskensis.*

U. S. N. M. number.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe without claw.
					mm.	mm.	mm.	mm.	mm.
230237 <sup>a</sup>	Male....	Kiska Harbor, Kiska I., Alaska.	June 18, 1911	A. Wetmore..	52.0	33.5	14.5	19.0	14.5
230242 <sup>a</sup>	...do.....	.....do.....	.....do.....	.....do.....	52.0	32.0	15.5	19.0	14.5
230239 <sup>a</sup>	...do.....	.....do. <sup>b</sup> .....	June 19, 1911	.....do.....	51.0	32.5	14.5	19.0	14.5
65480 <sup>a</sup>	...do.....	.....do.....	June 20, 1873	W. H. Dall..	52.0	33.5	16.0	19.0	14.0
230238 <sup>a</sup>	Female...	.....do.....	June 18, 1911	A. Wetmore..	48.5	30.0	15.0	18.0	14.0
230240 <sup>a</sup>	...do.....	.....do.....	.....do.....	.....do.....	48.0	27.0	14.0	18.0	14.5
230241 <sup>a</sup>	...do.....	.....do.....	.....do.....	.....do.....	49.0	28.0	14.0	18.0	13.5
230243 <sup>a</sup>	...do.....	.....do.....	June 19, 1911	.....do.....	48.0	32.0	14.0	18.0	13.5

<sup>a</sup> Used in measurement averages on pp. 228–229.

<sup>b</sup> Type.

**NANNUS TROGLODYTES ALASCENSIS (Baird).**

*Troglodytes alascensis* BAIRD, Trans. Chicago Acad. Sci., vol. 1, pt. 2, 1869, p. 315, pl. 30, fig. 3.

*Subspecific characters*.—Similar to *Nannus troglodytes kiskensis*, but wing and tail longer; bill decidedly, tarsus and middle toe without claw somewhat, shorter; upper parts darker, more rufescent; lower parts rather more deeply ochraceous, and posteriorly with narrower, less deeply blackish bars.

*Measurements*.—Male:<sup>2</sup> wing, 53–55 (average, 54) mm.; tail, 32.5–35.5 (34); exposed culmen, 13–13.5 (13.3); tarsus, 18–18.5 (18.2); middle toe without claw, 13–14 (13.5).

<sup>1</sup> Four specimens, from Kiska Island, Alaska.

<sup>2</sup> Four specimens, from the Pribilof Islands, Alaska.

Female: <sup>1</sup> wing, 50–54.5 (average, 51.7) mm.; tail, 30.5–33.5 (32.3); exposed culmen, 12–13.5 (12.9); tarsus, 17–18.5 (17.7); middle toe without claw, 12–13.5 (13).

*Type-locality*.—St. George Island, Pribilof Islands, Alaska.

*Geographic distribution*.—Pribilof Islands, Alaska.

*Remarks*.—This island race differs from *Nannus troglodytes meligerus* in its shorter culmen, tarsus, and middle toe; more rufescent upper parts; more uniform, less heavily barred posterior lower parts; and much more deeply ochraceous under surface. It was originally described from a very imperfect, immature example, and not until now could a satisfactory series of adult birds be had for comparison. This series shows that the bird from the Pribilof Islands, which must be true *Nannus troglodytes alasensis*, is subspecifically different from all the birds of the Aleutian Chain, including Unalaska Island. It appears to be confined to the islands of St. George and St. Paul in the Pribilof group.

Detailed measurements of adult specimens examined are as follows:

*Measurements of specimens of Nannus troglodytes alasensis.*

U. S. N. M. number.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe without claw.
237537 <sup>a</sup>	Male....	St. Paul I., Pribilof Is., Alaska.	Oct. 29, 1914	G. P. Hanna..	mm. 55.0	mm. 34.0	.....	.....	.....
68324 <sup>a</sup>	Male....	St. George I., Pribilof Is., Alaska.	.....	G. R. Adams	54.0	35.5	13.5	18.5	14.0
261531 <sup>a</sup>	...do.....	.....do.....	Dec. 25, 1913	G. P. Hanna	53.0	32.5	13.0	18.0	13.5
261534 <sup>a</sup>	...do.....	.....do.....	Jan. 7, 1914	.....do.....	54.0	34.0	13.5	18.0	13.0
237539 <sup>a</sup>	Female..	St. Paul I., Pribilof Is., Alaska.	May 16, 1915	.....do.....	50.0	32.0	13.5	18.5	12.0
261532 <sup>a</sup>	...do.....	St. George I., Pribilof Is., Alaska.	Dec. 25, 1913	.....do.....	52.0	33.5	12.0	17.0	13.0
261535 <sup>a</sup>	...do.....	.....do.....	Jan. 7, 1914	.....do.....	54.5	33.0	12.5	18.5	13.5
261536 <sup>a</sup>	...do.....	.....do.....	.....do.....	.....do.....	51.0	30.5	13.5	17.5	13.0
261533 <sup>a</sup>	...do.....	.....do.....	.....do.....	.....do.....	51.0	32.5	13.0	17.0	13.5

<sup>a</sup> Used in measurement averages on pp. 229–230.

**NANNUS TROGLODYTES TANAGENSIS, new subspecies.**

*Subspecific characters*.—Similar to *Nannus troglodytes kiskensis*, but wing somewhat longer; upper parts more rufescent and rather lighter, especially on the lower back, rump, and upper tail-coverts; posterior lower parts on the average less heavily barred, and with the bars less blackish; the entire under surface averaging lighter and somewhat more ochraceous.

<sup>1</sup> Five specimens, from the Pribilof Islands, Alaska.



*Description*.—Type, adult male, No. 230245, U.S.N.M., Biological Survey Collection; Tanaga Bay, Tanaga Island, Aleutian Islands, Alaska, June 25, 1911; A. Wetmore; original number, 607. Pileum dull olive brown, the forehead faded to a lighter shade; back Saccardo's umber; rump and upper tail-coverts between cinnamon brown and tawny, with obsolescent dark brown bars; tail basally of the same color as the rump, terminally sayal brown, paling in some places to buff, and narrowly barred throughout with dark brown or blackish; wings fuscous, broadly barred on the outer webs of quills and coverts with sayal brown and buff; lores fuscous; broad postocular stripe dull olive brown; cheeks and sides of neck dull cinnamonaceous, more or less mixed with fuscous; lower parts, including edge of wing, between cinnamon and cinnamon buff, paler on chin and medial portion of abdomen; flanks and sides sayal brown; abdomen, flanks, and crissum, spotted or irregularly barred with blackish brown or brownish black.

*Measurements*.—Male:<sup>1</sup> wing, 52–55 (average, 53.4) mm.; tail, 28.5–33.5 (32); exposed culmen, 14–16 (15.1); tarsus, 18–19.5 (18.8); middle toe without claw, 13–14.5 (14).

Female:<sup>2</sup> wing, 48.5–53.5 (average, 50.5) mm.; tail, 29–32 (31); exposed culmen, 15–15.5 (15.1); tarsus, 18–19.5 (18.4); middle toe without claw, 13–14 (13.7).

*Type-locality*.—Tanaga Bay, Tanaga Island, Aleutian Islands, Alaska.

*Geographic distribution*.—Islands of Tanaga, Adak, and Atka, in the Aleutian chain, Alaska, together with probably other intervening and adjoining islands.

*Remarks*.—This new race is similar to *Nannus troglodytes alascensis* from the Pribilof Islands, but its bill is much longer and its upper parts lighter. While intermediate between *Nannus troglodytes kiskensis* from Kiska Island and the bird occupying Unalaska Island, the present race is sufficiently different from both to necessitate subspecific distinction. It is, of all the races inhabiting the Aleutian Islands, the one nearest in characters to *Nannus troglodytes alascensis* of the Pribilof Islands.

<sup>1</sup> Five specimens, from the Aleutian Islands of Tanaga, Adak, and Atka, Alaska.

<sup>2</sup> Four specimens, from Tanaga and Adak Islands, Alaska.

Measurements of individual specimens are as follows:

*Measurements of specimens of Nannus troglodytes tanagensis.*

Museum and number.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe with-out claw.
U.S.N.M. 230245 <sup>a</sup>	Male....	Tanaga Bay, Tanaga I., Aleutian Is., Alaska. <sup>b</sup>	June 25, 1911	A. Wetmore.	mm. 54.0	mm. 33.0	mm. 15.5	mm. 19.0	mm. 14.5
U.S.N.M. 230246 <sup>a</sup>	...do....	...do....	...do....	...do....	52.5	28.5	16.0	19.5	14.0
U.S.N.M. 230248 <sup>a</sup>	...do....	Bay of Waterfalls, Adak I., Aleutian Is., Alaska.	June 26, 1911	...do....	52.0	33.0	14.0	18.0	14.5
A. C. Bent 4818 <sup>a</sup>	...do....	Atka I., Aleutian Is., Alaska.	June 14, 1911	A. C. Bent..	55.0	.....	14.5	19.0	14.0
U.S.N.M. 131757 <sup>a</sup>	...do....	...do....	May 24, 1892	B. W. Evermann.	53.5	33.5	15.5	18.5	13.0
U.S.N.M. 230247 <sup>a</sup>	Female .	Tanaga Bay, Tanaga I., Aleutian Is., Alaska.	June 25, 1911	A. Wetmore.	50.0	32.0	15.0	18.0	14.0
U.S.N.M. 230244 <sup>a</sup>	...do....	Bay of Waterfalls, Adak I., Aleutian Is., Alaska.	June 26, 1911	...do....	50.0	32.0	15.0	18.0	14.0
A. C. Bent 4819 <sup>a</sup>	...do....	...do....	June 27, 1911	A. C. Bent..	53.5	.....	15.5	19.5	.....
A. C. Bent 4820 <sup>a</sup>	...do....	...do....	...do....	...do....	48.5	29.0	15.0	18.0	13.0

<sup>a</sup> Used in measurement averages on p. 231.

<sup>b</sup> Type.

**NANNUS TROGLODYTES PETROPHILUS, new subspecies.**

*Subspecific characters.*—Similar to *Nannus troglodytes alasensis*, but wing shorter; bill longer; upper parts lighter, much more rufescent; lower parts decidedly paler, and posteriorly with narrower and lighter bars.

*Description.*—Type, adult female, No. 167340, U.S.N.M., Biological Survey Collection; Unalaska, Unalaska Island, Alaska, October 23, 1900; W. H. Osgood; original number, 569. Crown slightly brownish Saccardo's umber; remainder of upper parts cinnamon brown, but more tawny on the rump; upper tail-coverts between tawny and cinnamon brown, and with scarcely perceptible darker bars; tail of the same color as the rump, barred conspicuously with brownish black; wings fuscous, the primaries barred with pale ochraceous buff, the remaining feathers, both quills and coverts, edged or barred with sayal brown; lores and postocular region fuscous; superciliary stripe buffy white; sides of neck like the back; cheeks mixed fuscous and pale cinnamon; lateral lower surface and the lower portion of the sides of the neck, pale cinnamomeous, between cinnamon and tawny olive; median lower parts much paler, between dull light pinkish cinnamon and pinkish buff; lower tail-coverts between tawny and cinnamon brown, and together with the abdomen and flanks, barred narrowly with brownish black; lining of wing pale buffy flecked with fuscous.

*Measurements*.—Male:<sup>1</sup> wing, 50–53 (average, 51.6) mm.; tail, 30–36 (32.9); exposed culmen, 12.5–15 (13.8); tarsus, 17.5–20 (18.6); middle toe without claw, 12.5–14.5 (13.7).

Female:<sup>2</sup> wing, 47–50 (average, 49.2) mm.; tail, 30–33 (31.5); exposed culmen, 12.5–13.5 (13); tarsus, 18–19 (18.3); middle toe without claw, 13–13.5 (13.3).

*Type-locality*.—Unalaska Island, Aleutian Islands, Alaska.

*Geographic distribution*.—Unalaska, Amaknak, and Akutan Islands in the Aleutian Islands, Alaska.

*Remarks*.—This new race may be readily distinguished from *Nannus troglodytes alascensis*, with which it has heretofore been considered identical, owing, of course, to the imperfect material available from the Pribilof Islands, the type-locality of the latter. The good series now at hand makes evident its excellent characters of both in size and color. It is, in fact, nearest to *Nannus troglodytes tanagensis*, from which it differs in its decidedly shorter bill; somewhat more abbreviated wing; more rufescent upper parts; and more deeply ochraceous lower surface. It is apparently confined to the islands of Unalaska, Amaknak, and Akutan.

Detailed measurements of adult specimens are as follows:

*Measurements of specimens of Nannus troglodytes petrophilus.*

U. S. N. M. number.	Sex.	Locality.	Date.	Collector.	Wing. mm.	Tail. mm.	Exposed culmen. mm.	Tarsus. mm.	Middle toe with- out claw. mm.
118876 <sup>3</sup>	Male....	Unalaska I., Aleutian Is., Alaska.	Aug. 16, 1890	W. Palmer....	51.0	30.0	.....	18.0	14.0
170047 <sup>3</sup>	..do.....	..do.....	July 15, 1899	R. Ridgway....	52.0	32.0	15.0	18.5	14.0
230236 <sup>3</sup>	..do.....	..do.....	June 7, 1911	A. Wetmore....	51.5	33.0	13.5	18.0	14.0
78867 <sup>3</sup>	..do.....	..do.....	Mar. 15, 1879	L. M. Turner....	53.0	31.5	14.0	18.0	14.0
78870 <sup>3</sup>	..do.....	..do.....	..do.....	..do.....	51.5	34.0	13.5	18.5	14.0
61635 <sup>3</sup>	..do.....	..do.....	Dec. 3, 1871	W. H. Dall....	50.0	30.5	12.5	17.5	13.0
106453 <sup>3</sup>	..do.....	..do.....	Oct. 19, 1885	C. H. Town- send.	51.5	34.5	13.0	19.5	14.0
61330 <sup>3</sup>	..do.....	..do.....	Oct. 21, 1871	W. H. Dall....	52.0	34.5	15.0	19.0	14.5
61327 <sup>3</sup>	..do.....	Amaknak I., Aleutian Is., Alaska.	Oct. 22, 1871	..do.....	51.0	35.0	13.5	20.0	13.0
73508 <sup>3</sup>	..do.....	Akutan I., Aleutian Is., Alaska.	May 13, 1877	E. W. Nelson.	52.0	33.0	14.5	19.0	12.5
167339 <sup>3</sup>	Female..	Unalaska I., Aleutian Is., Alaska.	Oct. 22, 1900	W. H. Osgood.	50.0	30.0	13.5	18.0	13.5
167340 <sup>3</sup>	..do.....	..do. <sup>4</sup> .....	Oct. 23, 1900	..do.....	50.0	31.5	13.0	18.0	13.5
81340 <sup>3</sup>	..do.....	Iliuliuk I., Aleutian Is., Alaska.	Oct. 13, 1880	T. H. Bean....	47.5	33.0	12.5	19.0	13.0
106654	.....	Unalaska, Unalaska I., Aleutian Is., Alaska.	Oct. 19, 1885	C. H. Town- send.	50.5	32.5	14.0	18.0	14.5
67820	.....	..do.....	May 14, 1874	L. M. Turner..	50.0	31.5	15.0	18.0	13.0

<sup>1</sup> Ten specimens, from Unalaska, Amaknak, and Akutan Islands, Aleutian Islands, Alaska.

<sup>2</sup> Three specimens, from Unalaska Island, Alaska.

<sup>3</sup> Used in measurement averages on p. 233.

<sup>4</sup> Type.

## NANNUS TROGLODYTES SEMIDIENSIS Brooks.

*Nannus hiemalis semidiensis* BROOKS, Bull. Mus. Comp. Zool., vol. 59, No. 5, September, 1915, p. 406 (Choyiet Island, Semidi Islands, Alaska.)

*Subspecific characters*.—Similar to *Nannus troglodytes petrophilus*, but wing, tail, and bill somewhat longer; upper parts less rufescent (more grayish) and somewhat darker; under surface paler, less deeply ochraceous, and posteriorly rather more heavily barred.

*Measurements*.—Male;<sup>1</sup> wing, 52.5–54 (average, 53.3) mm.; tail, 33–35 (34); exposed culmen, 15; tarsus, 18.5–19 (18.8); middle toe without claw, 14–14.5 (14.3).

*Type-locality*.—Choyiet Island, Semidi Islands, Alaska.

*Geographic distribution*.—Semidi Islands, Alaska.

*Remarks*.—This recently described race differs from *Nannus troglodytes alascensis* in its decidedly longer bill and somewhat longer tarsus and middle toe; somewhat lighter, less rufescent upper parts; and paler, less ochraceous lower surface. It is a distinct subspecies, nearest in characters to *Nannus troglodytes tanagensis*, but differing from this in somewhat less rufescent upper parts and paler lower surface, particularly on the posterior portion. It appears to be confined to the Semidi Islands; and the original specimens, of which the measurements are given below, are the only ones, so far as known, that exist in collections.

*Measurements of specimens of Nannus troglodytes semidiensis.*

Museum and number.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe without claw.
M. C. Z. 66711 <sup>a</sup> .	Male..	Choyiet I., Semidi Is., Alaska.	Apr. 18, 1913	W. S. Brooks..	mm. 54.0	mm 35.0	mm. 15.0	mm. 18.5	mm. 14.0
J. E. Thayer 3032. <sup>a</sup>	...do..	North Semidi I., Semidi Is., Alaska.	Apr. 19, 1913	J. Dixon.....	52.5	33.0	15.0	19.0	14.5

<sup>a</sup> Used in measurement averages on p. 234.

<sup>b</sup> Type.

## NANNUS TROGLODYTES HELLERI (Osgood).

*Anorthura hiemalis helleri* OSGOOD, Auk, vol. 18, No. 2, April, 1901, p. 181 (English Bay, near Kodiak, Kodiak Island, Alaska).

*Subspecific characters*.—Similar to *Nannus troglodytes petrophilus*, but smaller, especially the bill; upper surface much darker, more sooty (less rufescent); dark bars of lower back, rump, and upper tail-coverts more conspicuous; lower parts darker, and posteriorly more heavily dark-barred.

<sup>1</sup> Two specimens, from the Semidi Islands, Alaska.

*Measurements*.—Male:<sup>1</sup> wing, 49–49.5 (average, 49.3) mm.; tail, 30.5–32 (31.3); exposed culmen, 11.5; tarsus, 16.5–17.5 (17); middle toe without claw, 12.

*Type-locality*.—English Bay, near Kodiak, Kodiak Island, Alaska.

*Geographic distribution*.—Kodiak Island.

*Remarks*.—This island race is similar to *Nannus troglodytes alasensis*, but is smaller throughout; slightly more rufescent on the upper surface, the dark bars on the posterior portion being more conspicuous; and it averages darker below. With the better material of *Nannus troglodytes alasensis* now available, it is readily seen that the present race intergrades with that form by individual variation. Very few specimens of the present race exist in collections, and it thus is still one of the rarest American forms of the genus.

Detailed measurements are as follows:

*Measurements of specimens of Nannus troglodytes helleri.*

U. S. N. M. number.	Sex.	Locality.	Date.	Collector.					
					Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe without claw.
167276 <sup>a</sup>	Male....	English Bay, near Kodiak, Kodiak Island, Alaska. <sup>b</sup>	Oct. 3, 1900	W. H. Osgood.	mm. 49.0	mm. 32.0	mm. 11.5	mm. 17.5	mm. 12.0
167346 <sup>a</sup>	Male....	Kodiak, Kodiak I., Alaska.	Oct. 4, 1900	.....do.....	49.5	30.5	11.5	16.5	12.0
54446	.....do.....	.....do.....	Aug. 14, 1868	F. Bischoff....	45.5	28.0	11.5	17.0	13.0
115794	.....do.....	.....do.....	Aug. 15, 1888	C. H. Townsend.	47.0	30.5	11.5	17.5	12.5

<sup>a</sup> Used in measurement averages on p. 235.

<sup>b</sup> Type.

**NANNUS TROGLODYTES PACIFICUS (Baird).**

*Troglodytes hyemalis* var. *pacificus* BAIRD, Rev. Amer. Birds, vol. 1, 1864, p. 145 (Puget Sound).

*Subspecific characters*.—Similar to *Nannus troglodytes helleri*, but smaller, except feet, which are larger; and coloration brighter.

*Measurements*.—Male:<sup>2</sup> wing, 44–49.5 (average, 46.5) mm.; tail, 28–33.5 (30.3); exposed culmen, 10–11.3 (10.6); tarsus, 17–19.5 (18); middle toe without claw, 11.5–13.5 (12.8).

Female:<sup>3</sup> wing, 43.5–47.5 (average, 45.4) mm.; tail, 28–31 (29.7); exposed culmen, 10–10.9 (10.4); tarsus, 17–18.5 (17.9); middle toe without claw, 11.5–13.5 (12.5).

*Type-locality*.—Simiahmoo, Puget Sound, Washington.

<sup>1</sup> Two specimens, from Kodiak Islands, Alaska.

<sup>2</sup> Ten specimens, from the western United States, British Colombia, and southeastern Alaska.

<sup>3</sup> Ten specimens, from the western United States.



*Geographic distribution.*—Western North America. Breeds north to western Alberta, northern British Columbia, and Prince William Sound, Alaska; west to the Pacific coast of southeastern Alaska, British Columbia, Washington, and California; south to central California, central Oregon, and southern Idaho; and east to western Montana and western Alberta. Winters south to southern California, southern Arizona, and southern New Mexico.

**NANNUS TROGLODYTES HIEMALIS (Vieillot).**

*Troglodytes hiemalis* VIEILLOT, Nouv. Dict. d'Hist. Nat., vol. 34, 1819, p. 514 (Nova Scotia and New York).

*Troglodytes parvulus*, var. *americanus* NAUMANN, Naturg. Vög. Deutschl., vol. 3, 1823, p. 724 (table).

*Subspecific characters.*—Similar to *Nannus troglodytes pacificus*, but paler above, and posteriorly more distinctly barred; lower parts also much paler and duller.

*Measurements.*—Male:<sup>1</sup> wing, 45–50 (average, 47.6) mm.; tail, 28–32 (30.3); exposed culmen, 10–11.2 (10.7); tarsus, 18–19.5 (18.5); middle toe without claw, 12–13 (12.8).

Female:<sup>2</sup> wing, 40–47 (average, 44.8) mm.; tail, 25–30 (27.8); exposed culmen, 10.1–11.2 (10.7); tarsus, 17–18.5 (17.8); middle toe without claw, 11–13 (12).

*Type-locality.*—Nova Scotia.<sup>3</sup>

*Geographic distribution.*—Eastern United States and southeastern Canada. Breeds north to Newfoundland, central Quebec, northern Ontario, southern Manitoba, and central Alberta; west to central Alberta; south to central Minnesota, northern Wisconsin, central Michigan, southern Ontario, Massachusetts, and along the Allegheny Mountains to southwestern North Carolina; east to the Allegheny Mountains in North Carolina and Pennsylvania, to Massachusetts, and the Atlantic coast from Maine to Newfoundland. Winters from the northern part of the eastern United States, south to Texas, Louisiana, Alabama, and northern Florida. Casual west to Colorado.

<sup>1</sup> Ten specimens, from Maryland and the District of Columbia.

<sup>2</sup> Nine specimens, from Massachusetts, New York, Maryland, New Jersey, Illinois, and the District of Columbia.

<sup>3</sup> Designated by Oberholser, Auk, vol. 19, No. 2, April, 1902, p. 178.